

III. Remarks

Reconsideration of this application is respectfully requested in light of the above amendments and the following remarks, which are responsive to the examination of original claims 1-17. After the amendments detailed above, claims 2-6 have been amended, claims 1 and 7-17 have been canceled and claims 18-23 have been added. The indication that the restriction requirement has been made final, and that claims 8-17 have been withdrawn from further consideration, is noted.

Rejections of canceled claims 1 and 7 are considered moot and, therefore, are not further addressed by this Amendment.

A. Priority

The acknowledgement, in the Office Action, of Applicant's claim for domestic priority under 35 U.S.C. 119(e) is noted with appreciation. However, the allegation that the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-7 of this application because the provisional application allegedly "does not contain any teachings of stimulating VEGF receptors using electromagnetic waves" is respectfully traversed. The provisional application provides, at page 4 under the heading "Submission of patent on angiogenesis", the following:

Data indicates that the Spinal-Stim PEMF signal can stimulate vascular endothelial cells and may act through activation of receptors for vascular endothelial growth factor (VEGF).

A PEMF is a Pulsed Electromagnetic Field, which inherently comprises electromagnetic waves. Thus, the provisional application does disclose stimulating VEGF receptors using electromagnetic waves. Accordingly, reconsideration and withdrawal of this allegation is respectfully requested.

B. Rejections under 35 U.S.C. §112

Claims 2-6 presently stand rejected under the second paragraph of 35 U.S.C. §112 for omitting duration, pulse period, and frequency, which are alleged to be "essential elements." As noted above, by this Amendment claim 4 has been amended to independent form and

claims 2, 3, 5, and 6 have been amended to depend from claim 4. Claim 4 recites a frequency by reciting that "the rate of fluctuation is about 3800 Hertz to 3900 Hertz" and, since period is directly related to frequency as is well known to those skilled in the art, claim 4 at least inherently recites pulse period. Claim 4, as amended, also includes a recitation of a duration (referred to as a burst period) by reciting "a field burst period of approximately 26 msec." These comments apply equally to claims 2, 3, 5, and 6 since these claims depend from claim 4. Accordingly, reconsideration and withdrawal of this rejection of claims 2-6 is respectfully requested.

Claim 6 presently stands rejected under the second paragraph of 35 U.S.C. §112 for reciting the term "biological effect", which is alleged to be a relative term that renders claim 6 indefinite. However, by this Amendment, claim 6 is amended to no longer include a recitation of the term "biological effect." Accordingly, reconsideration and withdrawal of this rejection of claim 6 is respectfully requested.

Claim 4 presently stands rejected under the second paragraph of 35 U.S.C. §112 for reciting the term "predetermined," which allegedly lacks sufficient antecedent basis. However, by this Amendment, claim 4 as amended no longer includes a recitation of the term "predetermined". Accordingly, reconsideration and withdrawal of this rejection of claim 4 is respectfully requested.

C. Rejections under 35 U.S.C. §102

The present Office Action rejects claims 2, 5, and 6 under 35 U.S.C. § 102(b) over Aaron (Aaron et al., *Stimulation of Experimental Endochondral Ossification by Low-Energy Pulsing Electromagnetic Field*, 4(2) Journal of Bone and Mineral Research 227-233 (1989)). However, by this Amendment claims 2, 5, and 6 have been amended to depend from claim 4, which includes limitations not disclosed by Aaron as evidenced by the fact that claim 4 has not been rejected over Aaron. Because claims 2, 5, and 6 depend from claim 4, and therefore include all of the limitations of claim 4, and because Aaron fails to disclose all of the limitations of claim 4, Aaron likewise fails to disclose all of the limitations of claims 2, 5, and 6 as amended. Since Aaron fails to disclose all of the limitations of claims 2, 5, and 6, Aaron cannot anticipate claims 2, 5, and 6. Accordingly, reconsideration and withdrawal of this rejection of claims 2, 5, and 6 is respectfully requested.

The present Office Action rejects claims 2, 5, and 6 under 35 U.S.C. § 102(b) over Sollazzo (Sollazzo et al., *Responses of Human MG-63 Osteosarcoma Cell Line and Human Osteoblast-Like Cells to Pulsed Electromagnetic Fields*, 18(8) Bioelectromagnetics 541-547 (1997)). However, by this Amendment claims 2, 5, and 6 have been amended to depend from claim 4, which includes limitations not disclosed by Sollazzo as evidenced by the fact that claim 4 has not been rejected over Sollazzo. Because claims 2, 5, and 6 depend from claim 4, and therefore include all of the limitations of claim 4, and because Sollazzo fails to disclose all of the limitations of claim 4, Sollazzo likewise fails to disclose all of the limitations of claims 2, 5, and 6 as amended. Since Sollazzo fails to disclose all of the limitations of claims 2, 5, and 6, Sollazzo cannot anticipate claims 2, 5, and 6. Accordingly, reconsideration and withdrawal of this rejection of claims 2, 5, and 6 is respectfully requested.

The present Office Action rejects claims 2, 5, and 6 under 35 U.S.C. § 102(b) over De Mattei (De Mattei et al., *Correlation Between Pulsed Electromagnetic Fields Exposure Time and Cell Proliferation Increase in Human Osteosarcoma Cell Lines and Human Normal Osteoblast Cells In Vitro*, 20(3) Bioelectromagnetics 177-182 (1999)). However, by this Amendment claims 2, 5, and 6 have been amended to depend from claim 4, which includes limitations not disclosed by De Mattei as evidenced by the fact that claim 4 has not been rejected over De Mattei. Because claims 2, 5, and 6 depend from claim 4, and therefore include all of the limitations of claim 4, and because De Mattei fails to disclose all of the limitations of claim 4, De Mattei likewise fails to disclose all of the limitations of claims 2, 5, and 6 as amended. Since De Mattei fails to disclose all of the limitations of claims 2, 5, and 6, De Mattei cannot anticipate claims 2, 5, and 6. Accordingly, reconsideration and withdrawal of this rejection of claims 2, 5, and 6 is respectfully requested.

The present Office Action rejects claims 2, 5, and 6 under 35 U.S.C. § 102(b) over Liboff (U.S. Patent No. 5,100,373). However, by this Amendment claims 2, 5, and 6 have been amended to depend from claim 4, which includes limitations not disclosed by Liboff as evidenced by the fact that claim 4 has not been rejected over Liboff. Because claims 2, 5, and 6 depend from claim 4, and therefore include all of the limitations of claim 4, and because Liboff fails to disclose all of the limitations of claim 4, Liboff likewise fails to disclose all of the limitations of claims 2, 5, and 6 as amended. Since Liboff fails to disclose all of the limitations of claims 2, 5, and 6, Liboff cannot anticipate claims 2, 5, and 6.

Accordingly, reconsideration and withdrawal of this rejection of claims 2, 5, and 6 is respectfully requested.

The present Office Action rejects claims 3-6 under 35 U.S.C. § 102(a)/102(e) over George (U.S. Patent No. 6,334,069). However, because George fails to disclose all of the limitations of claims 3-6, George cannot anticipate these claims.

Specifically, by this Amendment claim 4 has been amended to recite generating an electromagnetic field burst having a burst period of approximately 26 msec.

George fails to disclose generation of an electromagnetic field burst having a burst period of approximately 26 msec. Instead, George discloses pulse durations in the range of 16-20 msec, 30-45 msec, or 32-60 msec. George, col. 12, lines 31-55.

Since George fails to disclose all of the limitations of claim 4, George cannot anticipate claim 4. Since claims 3, 5, and 6 depend from claim 4, George cannot anticipate claims 3, 5, and 6 for at least the reason that these claims depend from claim 4. Accordingly, reconsideration and withdrawal of the rejection of claims 3-6 is respectfully requested.

The present Office Action rejects claims 2, 3, 5, and 6 under 35 U.S.C. § 102(e) over Dissing (U.S. Patent No. 6,561,968). However, by this Amendment claims 2, 3, 5, and 6 have been amended to depend from claim 4, which includes limitations not disclosed by Dissing as evidenced by the fact that claim 4 has not been rejected over Dissing. Because claims 2, 3, 5, and 6 depend from claim 4, and therefore include all of the limitations of claim 4, and because Dissing fails to disclose all of the limitations of claim 4, Dissing likewise fails to disclose all of the limitations of claims 2, 3, 5, and 6 as amended. Since Dissing fails to disclose all of the limitations of claims 2, 3, 5, and 6, Dissing cannot anticipate claims 2, 3, 5, and 6. Accordingly, reconsideration and withdrawal of this rejection of claims 2, 3, 5, and 6 is respectfully requested.

D. New Claims

By this Amendment, new claims 18-23 have been added in order to provide for more adequate protection of the present invention. New claims 18-23 recite novel methods for activating a VEGF receptor of one or more cells, where the methods comprise generating an electromagnetic field having specified burst periods and rates of fluctuation. None of the cited references discloses such methods. Therefore, claims 18-23 should be in condition for allowance.

E. Conclusion

For at least the foregoing reasons, it is believed that all of pending claims 2-6 and 18-23 of the present application patently distinguish over the cited references and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned. Further, applicants enclose a check in the amount of \$120.00 to cover the fees associated with a one-month extension of time. In the event that additional fees are required to complete this filing, the Commissioner is authorized to deduct any deficiencies from Deposit Account 13-0480, Attorney Docket No. 24128070-10022US-2.

If Examiner has any questions regarding this filing or the application in general, Examiner is invited to contact Applicant's attorney at the below-listed telephone number.

Respectfully submitted,

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